



MATERIAL SAFETY DATA SHEET

PRODUCT : Lambda-cyhalothrin 5% EC

PRODUCT DESIGNATION : Insecticide

Section 1. Product & Company Identification

Common Name : Lambda-cyhalothrin 5% EC

Grade : Formulation

Active Ingredient : Lambda-cyhalothrin

Chemical Name of Active Ingredient (IUPAC) : (*R*)- α -cyano-3-phenoxybenzyl (1*S*, 3*S*)-3-[(*Z*)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate and (*S*)- α -cyano-3-phenoxybenzyl (1*R*, 3*R*)-3-[(*Z*)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate

Chemical Family of A. I. : Pyrethroids

Molecular Formula of A. I. : C₂₃H₁₉ClF₃NO₃

Molecular Mass of A. I. : 449.9

Manufacturer & Supplier : **M/s PERFECT SOLUTIONS**
Office Add: B-371, Paschim Vihar, New Delhi - 110063 (India)
Factory Add: 15/1, 15/2, 15/3 Industrial Estate, Vidisha - 464001 (M.P)

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Section 2. Composition / Information on Ingredients

Chemical Name	Cas #	Percent Or Content(W/W)
Lambda-cyhalothrin	91465-08-6	5.00
Petroleum Solvent	----	>50.0
Inert Ingredients	----	Q.S.



Section 3. Hazards Identification

Harmful if inhaled or swallowed. Moderate irritate to eyes. May cause skin irritation May cause temporary itching, tingling, burning or numbness in exposed areas (paresthesia). It is very toxic to aquatic organisms.

Section 4. First Aid Measures

Emergency and First Aid Procedure –

If in Eyes: If in eyes, hold eye open and rinse slowly and gently with eyewash solution or clean water for at least 15 minutes. Call a poison center or doctor for treatment if necessary.

If on Skin: Take off all contaminated clothing immediately. Wash skin immediately with plenty of water, such action is essential to minimize contact with skin. Contaminated clothing should be washed before re-use.

If Inhaled: Move patient from exposure to fresh air, keep warm and at rest. If patient is not breathing, give artificial respiration, preferably mouth-to-mouth if possible. Call a poison center or doctor for treatment if necessary.

If Swallowed: If swallowed, seek medical advice immediately and show this Data sheet, if possible. Do not give anything by mouth to an unconscious person. Do not induce vomiting.

Note to Physician: There is no specific antidote. Treat symptomatically.

Section 5. Fire Fighting Measures

Keep fire exposed containers cool by spraying with water.

Extinguishing Media: For small fires, use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers.

Fire Fighting Protective Equipment :A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

Section 6. Accidental Release Measures



Personal Protection: Ensure suitable personal protection during removal of spillage. This means precautions: wearing eye protection, chemically resistant gloves, boots and coveralls

Steps to be taken in case of a spill: Control the spill at its source. Contain the spill to prevent it from spreading, contaminated soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately. Spillage or uncontrolled discharges into watercourses must be alerted to the Department of Water Affairs/Environment.

Section 7. Handling & Storage

Precautions in Handling: Read the label before use.

Safe Handling Advice: Avoid contact with skin and eyes. Do not breathe spray. Avoid inhalation of high concentrations of vapors. When using do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.

Storage:

Safe storage advice: Keep only in the original container. Keep container tightly closed. Keep out of the reach of children. Keep away from food, drink and animal feeding stuff.

Storage life: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

Section 8. Exposure Control, Personal Protection

Personal Protection: Wear overalls, safety boots, safety goggles, gloves and NIOSH approved half mask respirator with organic vapor cartridge+dust/mist prefilter. Wash protective clothing before storage or reuse. Wash thoroughly after handling, before eating, drinking or smoking.

Respiratory Protection: All pesticide handlers must wear a respiratory.

Protective Gloves: Chemical resistant gloves.

Eye Protection: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Protection: Where contact is likely, wear chemical-resistant (such as nitrile butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear. Stringent housekeeping measures are necessary to prevent



translocation of the material from contaminated work surfaces to uncontaminated surfaces. Unprotected contact with such translocated material can result in paresthesia effects.

Section 9. Physical and Chemical Properties

Appearance / state	: Clear,
Colour	: yellow liquid free of visible impurities
Odour	: Aromatic odour
Melting point	: $40.5 \pm 0.07^{\circ}\text{C}$
Boiling point	: 159-160 °C
Specific gravity	: 1.4007 +/- 0.067 at 20°C
Vapour pressure	: 200nPa (20 °C); 200uPa (60 °C)
pH	: 6.75
Corrosivity	: Non-corrosive
Density	: 0.906 g/cm
Viscosity	: 2.4 mPa: In water
Flash Point	: > 55 °C
Auto Ignition Temp	: Not known
Flammable Limits	: Not applicable

Section 10. Stability & Reactivity

Chemical Stability: stable on standard conditions. It can keep over 2 years at common temperature. Hazardous decomposition products: it can decompose at high temperatures forming toxic gases.

Materials to Avoid: Product reacts with: Oxidizing agents.

Hazardous Decomposition Product: No hazardous decomposition products known.

Hazardous Polymerization: will not occur.

Section 11. Toxicological Information

Acute oral LD50: > 50 to <300 mg/kg (200 mg/kg b/w) (rat.)

Acute dermal LD50: >2000 mg/kg (rat)

Acute inhalation LC50: LC50 (4h) for rats 4.79 mg/l air.

Acute skin irritation: Irritating (rabbit).



Acute eye irritation: Serious eye -irritating (rabbit)

Skin sensitization: Non-sensitizer

Section 12. Ecological Information

Effects on birds : It is non-toxic to slightly toxic to birds.

Effects on other animals

(Non-target species) : It is highly toxic to bees.

LC50 (Rainbow trout):	0.36 mg/l
EC50 (Daphnia):	0.32 mg/l
EC50 (Algae: <i>Selenastrum capricornutum</i>):	>1000 mg/l
Other Aquatic Organisms:	Very toxic to aquatic organisms.

Section 13. Disposal Consideration

Product: Agrochemical waste containing dangerous substances. The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

Packaging: Completely discharge containers. Do not reuse product container.

Section 14. Transport Information

IMDG Classification

Shipping name : pesticide, liquid, toxic substance Lambda-Cyhalothrin.

Class : 9

Packing group : III

UN number : 3082

Marine pollutant : Yes

Section 15. Regulatory Information

Classification: Harmful

Risk Phrases: R22, and R38

Safety Phrases: S2, S13, S20/21, S36/37/39, S28, S46 and S053

Section 16. Other Information



All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by PERFECT SOLUTIONS., as to the results to be obtained based upon the user's use of the information, nor does PERFECT SOLUTIONS., assume any liability arising out of user's use of the information.

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